

What is claimed is:

1. A method for adjusting an operational characteristic of an audio device comprising:
  - receiving a user spoken utterance from an audio speech source;
  - detecting a position of said audio speech source relative to said audio device;
  - generating proximity data corresponding to said detected position; and
  - processing said received user spoken utterance with a selected signal processing technique based upon said proximity data, said signal processing technique distinguishing said user spoken utterance from background noise.
2. The method of claim 1, wherein said selected signal processing technique is selected from a plurality of signal processing techniques wherein each of said signal processing techniques is associated with a proximity range.
3. The method of claim 1, wherein said proximity data includes a distance measurement.
4. The method of claim 1, said processing step further comprising:
  - determining a phase component of said user spoken utterance, wherein said user spoken utterance is received by a plurality of input transductive elements.
5. The method of claim 1, said processing step further comprising:
  - determining a common mode component of said user spoken utterance, wherein said user spoken utterance is received by a plurality of input transductive elements.
6. The method of claim 1, said signal processing technique altering an audio input beam.

1 7. A method for adjusting an operational characteristic of an audio device  
2 comprising:  
3 detecting a position of an audio speech source relative to said audio device;  
4 generating proximity data corresponding to said detected position; and  
5 selectively adjusting an output level of said audio device based upon said  
6 proximity data.

1 8. The method of claim 7, wherein said proximity data includes a distance  
2 measurement.

1 9. The method of claim 7, wherein said selected output level is selected from a  
2 plurality of predetermined output levels wherein each of said output levels is associated  
3 with a proximity range.

1 10. An audio device, comprising:  
2 a proximity detector generating proximity data based on a position of an audio  
3 speech source relative to said audio device;  
4 at least one input transductive element, said input transductive element receiving  
5 sound and producing corresponding input audio signals;  
6 an output element, said output element providing output audio signals from said  
7 audio device to said audio speech source;  
8 audio circuitry, said audio circuitry converting said input audio signals from  
9 analog to digital format and converting said output audio signals from digital to analog  
10 format; and  
11 a processor, said processor processing said input audio signals and said output  
12 audio signals using signal processing techniques based upon said proximity data.

1 11. The audio device of claim 10, wherein said output element is a speaker.

1 12. The audio device of claim 10, wherein said output element is a connection jack  
2 providing output audio signals to an output transductive element.

1 13. The audio device of claim 10, said processor including a digital signal processor  
2 processing said input audio signals and said output audio signals.

1 14. The audio device of claim 10, said proximity detector comprising:  
2 an infrared transmitter, said infrared transmitter transmitting infrared energy from  
3 said audio device; and  
4 an infrared detector, said infrared detector detecting at least part of said infrared  
5 energy reflected off of said audio speech source.

1 15. A machine readable storage, having stored thereon a computer program having  
2 a plurality of code sections executable by a machine for causing the machine to perform  
3 the steps of:  
4 receiving a user spoken utterance from an audio speech source;  
5 detecting a position of said audio speech source relative to said audio device;  
6 generating proximity data corresponding to said detected position; and  
7 processing said received user spoken utterance with a selected signal  
8 processing technique based upon said proximity data, said signal processing technique  
9 distinguishing said user spoken utterance from background noise.

1 16. The machine readable storage of claim 15, wherein said selected signal  
2 processing technique is selected from a plurality of signal processing techniques  
3 wherein each of said signal processing techniques is associated with a proximity range.

1 17. The machine readable storage of claim 15, wherein said proximity data includes  
2 a distance measurement.

1 18. The machine readable storage of claim 15, said processing step further  
2 comprising:

3 determining a phase component of said user spoken utterance, wherein said  
4 user spoken utterance is received by a plurality of input transductive elements.

1 19. The machine readable storage of claim 15, said processing step further  
2 comprising:

3 determining a common mode component of said user spoken utterance, wherein  
4 said user spoken utterance is received by a plurality of input transductive elements.

1 20. The machine readable storage of claim 15, said signal processing technique  
2 altering an audio input beam.

1 21. A machine readable storage, having stored thereon a computer program having  
2 a plurality of code sections executable by a machine for causing the machine to perform  
3 the steps of:

4 detecting a position of an audio speech source relative to said audio device;  
5 generating proximity data corresponding to said detected position; and  
6 selectively adjusting an output level of said audio device based upon said  
7 proximity data.

1 22. The machine readable storage of claim 21, wherein said proximity data includes  
2 a distance measurement.

1 23. The machine readable storage of claim 21, wherein said selected output level is  
2 selected from a plurality of predetermined output levels wherein each of said output  
3 levels is associated with a proximity range.